

REMARKS

Claims 1-17, 19-36, 38 and 39 are pending in the application. Claims 18, 37 and 40-42 were canceled previously. Claims 1, 15, 21 and 34 have been amended. Support for the amendments may be found throughout the application as filed including, but not limited to, Claims 1 and 21 as originally filed; page 5, lines 25-27; and page 12, lines 2-6.

In view of the following remarks, reconsideration and withdrawal of the rejections to the application in the Office Action is respectfully requested.

I. Objection to the Abstract.

In the Office Action the Examiner objected to the abstract because it exceeded 150 words. With the entry of the present amendments to the specification, the abstract no longer exceeds 150 words. In view of this amendment Applicants respectfully request that this objection be withdrawn.

II. Rejection of Claim 18

In the Office Action the Examiner issued rejections of Claim 18 under 35 U.S.C. § 112, second paragraph and 35 U.S.C. § 102(e)(2). With regard to these rejections, Applicants respectfully note that Claim 18 was previously cancelled in the Utility Patent Application Transmittal form filed on August 9, 2000. Therefore, the Examiner's present rejections of Claim 18 are rendered moot and Applicants respectfully request that these rejections be withdrawn.

III. Rejection of Claims under 35 U.S.C. § 112, second paragraph.

In the Office Action, Claims 1-36, 38 and 39 were rejected under 36 U.S.C. § 112, second paragraph as indefinite for failure to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner issued this rejection on the grounds that the preamble of Claims 1 and 21 is confusing because it recites an apparatus directed to the

synthesis of arrays of DNA probes, but no DNA probe synthesis limitations are present in those claims.

Claims 1 and 21 have been amended to delete any reference to the use of the claimed apparatus in the synthesis of arrays of DNA probes. In view of these amendments, Applicants respectfully request that this rejection be withdrawn.

With regard to Claim 24 the Examiner further asserted, "Claim 24 is vague and indefinite due to citing a magnification of 1, albeit substantially. It is confusing what is meant by a citing a magnification of 1 wherein a 1X image is commonly known to be the same size as the item being imaged and thus is not a magnification."

In response to this rejection Applicants respectfully point out that Claim 24 does not actually recite "a magnification of 1". For this reason Applicants respectfully request that this rejection be withdrawn.

IV. Rejection of Claims under 35 U.S.C. § 112, first paragraph.

In the Office Action Claims 14 and 33 were rejected under 35 U.S.C. § 112, first paragraph for allegedly failing to comply with the enablement requirement. More specifically Claims 14 and 33 were rejected on the grounds that they contain a reference to a "Kohler illumination system" and that Kohler illumination systems are not well known and specific guidance as to what is meant by such a system is not set forth. Applicants respectfully traverse.

With regard to this rejection, the Examiner's attention is directed to application on page 10 at lines 19-24, with reference to Fig. 3, which states:

An FV1 two element fused silica condenser (Oriel 66024) is used as the condenser 28, and with two plano-convex lenses 52 (Melles Griot 01LQP033 and Melles Griot 01LQP023), forms a Kohler illumination system. This illumination system produces a roughly collimated uniform beam 30 to 365 mm light with a diameter just

large enough to encompass the 16 mm x 12 mm active area of micromirror array device 35. (Emphasis added.)

Thus, the application contains a specific drawing and description of a Kohler illumination system, including a description of the commercially available parts forming the elements thereof. The term “Kohler illumination” is also a standard term used in optics, as illustrated by the enclosed copies of the definition of Kohler illumination in the McGraw-Hill Dictionary of Scientific and Technical Terms, 5th Edition.

In view of the disclosure of the present application and the knowledge generally available to one of ordinary skill in art, as evidenced by the enclosed pages from the McGraw-Hill Dictionary of Scientific and Technical Terms, 5th Edition, Applicants respectfully submit that the language of Claims 14 and 33 complies with enablement requirement under 35 U.S.C. § 112, first paragraph and respectfully request that this rejection be withdrawn.

V. Rejection of Claims Under 35 U.S.C. § 102(e)(2).

In the Office Action, Claims 1-3, 5-10, 15, 21-23, 25-29 and 34 were rejected under 35 U.S.C. 102(e)(2) as allegedly anticipated by U.S. Patent No. 6,426,184, issued to Gao et al. (hereinafter “Gao”). Applicants respectfully traverse.

With regard to rejected Claims 15 and 34, Applicants respectfully submit that Gao does not provide a prima facie case of anticipation. In order to provide a prima facie case of anticipation, each and every element of a rejected claim must be found, either expressly or inherently, in the cited reference. (MPEP 2131) Gao fails to provide a prima facie case of anticipation because Gao fails to teach an apparatus for imaging a pattern on a substrate that includes projection optics comprised of telecentric reflective optical elements, as recited in amended Claims 15 and 34.

In support of the rejection of Claims 15 and 34 the Examiner stated, “Telecentric optical elements are shown in Figures 8A as well as reflective elements (805 and 801a) as required in instant claim 15.” This statement by the Examiner suggests that the Examiner mistakenly

interpreted the “projection optics” and the “reflective optical elements” recited in Claims 15 and 34 as two separate elements. In order to avoid this misinterpretation, Applicants have amended Claims 15 and 34 to clarify that the projection optics comprise telecentric reflective optical elements.

Any misinterpretation of Claims 15 and 34 notwithstanding, Applicants respectfully note that telecentric optical elements are not shown in Figure 8A of Gao. Figure 8A of Gao shows an apparatus using a micromirror array modulator that includes a projection lens (806). The depicted projection lens is not a telecentric lens. As a separate element, the apparatus of Figure 8A also includes a reflector (805) for directing a light beam onto a Digital Micromirror Device. However, this reflector is not part of telecentric projection optics. Therefore, because Gao fails to teach an apparatus that includes projection optics comprising telecentric reflective optical elements, Gao does not anticipate Claims 15 and 34. For this reason, Applicants respectfully request that this rejection be withdrawn.

With regard to Claims 1-3, 5-10, 21-23 and 25-29, Applicants hereby submit the declaration of Francesco Cerrina Under 37 C.F.R. § 1.131 (the “Cerrina Declaration”) that removes Gao as a prior art reference.

Exhibit A of the Cerrina Declaration is invention disclosure materials submitted to the Wisconsin Alumni Research Foundation (WARF) by Francesco Cerrina, an inventor of Claims 1-3, 5-10, 21-23 and 25-29, prior to February 11, 1998, the effective date of Gao. Exhibits B and C of the Cerrina Declaration are copies of two letters sent by patent attorney Harry C. Engstrom to Francesco Cerrina, enclosing drafts of U.S. Provisional Patent Application No. 60/075,641, from which the present application claims priority. The two letters were sent between January 26, 1998 and February 23, 1998, the filing date of U.S. Provisional Patent Application No. 60/075,641. The subject matter of Claims 1-3, 5-10, 21-23 and 25-29 is fully supported by the original disclosure of U.S. Provisional Patent Application No. 60/075,641. Taken together, Exhibits A-C of the Cerrina Declaration establish conception of the subject matter of Claims 1-3, 5-10, 21-23 and 25-29 prior to the effective date of Gao and reasonable diligence in reducing to

practice the subject matter of Claims 1-3, 5-10, 21-23 and 25-29 from a date prior to the effective date of Gao until the filing of U.S. Provisional Patent Application No. 60/075,641.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Further regarding Claims 15 and 34, Applicants hereby reserve the right to submit a declaration under 37 C.F.R. § 1.131 swearing behind Gao in a future correspondence should such a declaration be deemed necessary or desirable.

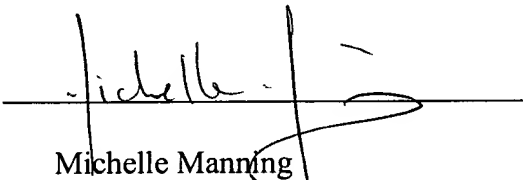
In view of the foregoing remarks, Applicants respectfully submit that all the claims remaining in the application are in condition for allowance and favorable action thereon is respectfully solicited.

Respectfully submitted,

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